IV. Specific Questions for Comment

In addition to requesting comment upon all aspects of this rulemaking, many of which we have highlighted in the preceding sections of this notice, we also request comment based upon the following specific questions. To be most useful to us, please provide your reasoning in your answers.

1. The NAS recommended that we base the individual-protection standard upon risk. Consistent with this recommendation and the statutory language of the EnPA, we are proposing a standard in terms of annual CEDE incurred by individuals. Is our rationale for this aspect of our proposal reasonable?

2. We are proposing an annual limit of 150 μSv (15 mrem) CEDE to protect the RMEI and the general public from releases from waste disposed of in the Yucca Mountain disposal system. Is our proposed standard reasonable to protect both individuals and the general public?

3. To define who should be protected by the proposed individual-protection standard, we are proposing to use an RMEI as the representative of the rural-residential CG. Is our approach reasonable? Would it be more useful to have DOE calculate the average dose occurring within the rural-residential CG rather than the RMEI dose?

4. Is it reasonable to use RME parameter values based upon characteristics of the population currently located in proximity to Yucca Mountain? Should we promulgate specific parameter values in addition to specifying the exposure scenarios?

5. Is it reasonable to consider, select, and hold constant today's known and assumed attributes of the biosphere for use in projecting radiation-related effects upon the public of releases from the Yucca Mountain disposal system?

6. In determining the location of the RMEI, we considered three geographic subareas and their associated characteristics. Are there other reasonable methods or factors which we could use to change the conclusion we reached regarding the location of the RMEI? For example, should we require an assumption that for thousands of years into the future people will live only in the same locations that people do today? Please include your rationale for your suggestions.

7. The NAS suggested using an NIR level to dismiss from consideration extremely low, incremental levels of dose to individuals when considering protection of the general public. For somewhat different reasons, we are proposing to rely upon the individual-protection standard to address protection of the general population. Is this approach reasonable in the case of Yucca Mountain? If not, what is an alternative, implementable method to address collective dose and the protection of the general population?

8. Is our rationale for the period of compliance reasonable in light of the NAS recommendations?

9. Does our requirement that DOE and NRC determine compliance with § 197.20 based upon the mean of the distribution of the highest doses resulting from the performance assessment adequately address uncertainties associated with performance assessments?

10. Is the single-borehole scenario a reasonable approach to judge the resilience of the Yucca Mountain disposal system following human intrusion? Are there other reasonable scenarios which we should consider, for example, using the probability of drilling through a waste package based upon the area of the package versus the area of the repository footprint or drilling through an emplacement drift but not through a waste package? Why would your suggested scenario(s) be a better measure of the resilience of the Yucca Mountain disposal system than the proposed

scenario?

11. Is it reasonable to expect that the risks to future generations be no greater than the risks judged acceptable today?

12. What approach is appropriate for modeling the ground water flow system downgradient from Yucca Mountain at the scale (many kilometers to tens of kilometers) necessary for dose assessments given the inherent limitations of characterizing the area? Is it reasonable to assume that there will be some degree of mixing with uncontaminated ground water along the radionuclide travel paths from the repository?

13. Which approach for protecting ground water in the vicinity of Yucca Mountain is the most reasonable? Is there another approach which would be preferable and reasonably implementable? If so, please explain the approach, why it is preferable, and how it could be implemented.

14. Is the 10,000-year compliance period for protecting the RMEI and ground water reasonable or should we extend the period to the time of peak dose? If we extend it, how could NRC reasonably implement the standards while recognizing the nature of the uncertainties involved in projecting the performance of the disposal system over potentially extremely long periods?

15. As noted by NAS, some countries have individual-protection limits higher than we have proposed. In addition, other Federal authorities have suggested higher individual-dose limits with no separate protection of ground water. Therefore, we request comment upon the use of an annual CEDE of 250 μSv (25 mrem) with no separate ground water protection, including the consistency of such a limit with our ground water protection policy.

16. We are proposing to require, in the individual-protection standard, that DOE must project the disposal system's performance after 10,000 years. Are the specified uses of the projections appropriate and adequate?